*Sludge*

Similar to manure, the cost of sludge from wastewater treatment plants (WWTPs) can be seen as an avoided cost. Since the facilities are required to dispose of the waste material, they have existing methods for doing so. Any new method would need to be less expensive than existing methods. In other words, the facilities will pay for someone to take their sludge as long as it is less expensive than what they are currently doing. Table 2 contains examples of costs for the Great Lakes Water Authority (Personal communication with Wendy Barrott).

**Table 2. Estimated costs for existing methods of sludge disposal (Great Lakes Water Authority, 2017)**

|  |  |  |
| --- | --- | --- |
| **Item** | **Approximate Cost** | **Notes** |
| Landfill Disposal | $31/wet ton (adding lime) | 8% lime added to sludge |
| Land Application | $46/wet ton (adding lime) | 12% lime added to sludge |
| Transportation | $10/wet ton to landfill + tipping fee | Given typical distance from WWTP |
| Incineration | $15.20/ton (ash – excluding energy costs) |  |
| Biosolids Drying | $177/dry ton | For up to 73,000 dry tons, does not include utilities |

It would make economic sense for this facility to be co-located with the WWTP. Therefore the cost of the feedstock would be this cost minus what the WWTP would pay for you to take its sludge (assuming their current least cost option as the marginal price). We will attempt to find similar cost structures for other large WWTPs, along with current equipment used at these facilities. We will then generalize these data at a national scale for a representative national supply curve. We have very detailed production numbers from work completed in FY2016 (Milbrandt et al. 2017).

Sludge

* Cost of biosolids drying – money received from WWTP = price for available supply.
* Need to find information from other large WWTPs.